

What is Claimed is:

1. A method for synthesizing the singing voice comprising:

an analyzing step of analyzing performance data forming a musical composition as the musical information of the pitch, duration and lyric;

a singing voice generating step of generating the singing voice through a speech synthesizer based on the music information analyzed; and

a key changing step of changing the key of the musical composition in generating said singing voice;

said key changing step changing the key of said performance data, at the time of generation of the singing voice, so that said singing voice will be comprised within the sound range reproducible by said speech synthesizer.

2. The method for synthesizing the singing voice according to claim 1, wherein said performance data is performance data of a MIDI file.

3. The method for synthesizing the singing voice according to claim 1, wherein said key changing step in changing the key of said musical composition adjusts the key of said musical composition so that a highlight portion of said musical composition will be optimized as the sound range for said speech synthesizer.

4. The method for synthesizing the singing voice according to claim 1, wherein said key changing step in changing the key of said musical composition deems that a portion in said performance data where the same phrase appears a plural number of times is a highlight to detect said highlight portion and adjusts the key of said

musical composition so that the highlight portion as detected will be optimized as the sound range for said speech synthesizer.

5. The method for synthesizing the singing voice according to claim 1, wherein the highlight portion in said musical composition is commanded by an operator and wherein the key of said musical composition is adjusted so that said highlight portion commanded by said operator will be optimized as the sound range for said speech synthesizer.

6. The method for synthesizing the singing voice according to claim 1, wherein said key changing step changes said key based on the sound range data indicating a sound range that can be synthesized by said speech synthesizer.

7. The method for synthesizing the singing voice according to claim 6, wherein said sound range data is commanded by an operator.

8. The method for synthesizing the singing voice according to claim 6, wherein said sound range data is provided for respective voice sorts of said speech synthesizer.

9. The method for synthesizing the singing voice according to claim 1, wherein said key changing step changes said key based on best sound range data indicating the sound range in which said speech synthesizer is able to synthesize the singing voice with the finest voice.

10. The method for synthesizing the singing voice according to claim 1, wherein, when the sound range of the musical composition has exceeded said sound range

data as the singing sound, said speech synthesizer performs the processing of raising or lowering the sound range exceeding sound by one octave, in said key changing step, so that the sound range of said musical composition will be comprised within said sound range.

11. The method for synthesizing the singing voice according to claim 1, wherein, when the sound range of the musical composition has exceeded said sound range data as the singing sound, said speech synthesizer does not adjust the sound scale.

12. The method for synthesizing the singing voice according to claim 9, wherein said best sound range data is commanded by an operator.

13. The method for synthesizing the singing voice according to claim 1, wherein, in said key changing step, an operator instructs whether or not said key is to be changed.

14. An apparatus for synthesizing the singing voice comprising:

analyzing means for analyzing performance data forming a musical composition as the musical information of the pitch, duration and lyric;

singing voice generating means for generating the singing voice through a speech synthesizer based on the music information analyzed; and

key changing means for changing the key of the musical composition in generating said singing voice;

said key changing means changing the key of said performance data, at the time of generation of the singing voice, so that said singing voice will be

comprised within the sound range reproducible by said speech synthesizer.

15. The apparatus for synthesizing the singing voice according to claim 14, wherein said performance data is performance data of a MIDI file.

16. The apparatus for synthesizing the singing voice according to claim 14, wherein said key changing means adjusts the key of said musical composition so that a highlight portion of said musical composition will be optimized as the sound range for said speech synthesizer.

17. The apparatus for synthesizing the singing voice according to claim 14, wherein said key changing means changes said key based on the sound range data indicating a sound range that can be synthesized by said speech synthesizer.

18. The apparatus for synthesizing the singing voice according to claim 14, wherein said key changing means changes said key based on best sound range data indicating the sound range in which said speech synthesizer is able to synthesize the singing voice with the finest voice.

19. A program for having a computer execute a preset processing, said program comprising:

an analyzing step of analyzing performance data forming a musical composition as the musical information of the pitch, duration and lyric;

a singing voice generating step of generating the singing voice through a speech synthesizer based on the music information analyzed; and

a key changing step of changing the key of the musical composition in

generating said singing voice;

said key changing step changing the key of said performance data, at the time of generation of the singing voice, so that said singing voice will be comprised within the sound range reproducible by said speech synthesizer.

20. The program according to claim 19, wherein said performance data is performance data of a MIDI file.

21. A computer-readable recording medium having recorded thereon a program configured for having a computer execute a preset processing, said program comprising:

an analyzing step of analyzing performance data forming a musical composition as the musical information of the pitch, duration and lyric;

a singing voice generating step of generating the singing voice through a speech synthesizer based on the music information analyzed; and

a key changing step of changing the key of the musical composition in generating said singing voice;

said key changing step changing the key of said performance data, at the time of generation of the singing voice, so that said singing voice will be comprised within the sound range reproducible by said speech synthesizer.

22. The recording medium according to claim 21, wherein said performance data is performance data of a MIDI file.

23. An autonomous robot apparatus executing a movement based on the input

information supplied, said apparatus comprising:

analyzing means for analyzing input performance data forming a musical composition as the musical information of the pitch, duration and lyric;

singing voice generating means for generating the singing voice through a speech synthesizer based on the music information analyzed; and

key changing means for changing the key of the musical composition in generating said singing voice;

said key changing means changing the key of said performance data, at the time of generation of the singing voice, so that said singing voice will be comprised within the sound range reproducible by said speech synthesizer.

24. The robot apparatus according to claim 23, wherein said performance data is performance data of a MIDI file.